

2010-05-19 Wednesday Morning Notes

Wednesday, May 19, 2010
7:00 AM

Stacking

- Cryo -
 - Pbar Dry Engine: After having few attempts, Shelly changed the clearances and "fixed" the valve arm for the PRSPDE. This have not fixed the frig problem; the P1TR12 and TI7 remain alarming. We decided to let it run and inspect it in 24 hrs.
 - After the PRSPWE work, the frig became less stable; having PRSPWE speed raised made the frig better at the expense of elevated PI1 and spiking EVBY.
 - No good changes for PBar. Shelly took the VPT readings. Dry = 250 psi/7 psi pressure, 7/0 psi VPTs; Wet= 250/22 pressures, 38/17 VPTs.
- D:Q916 tripped on DC Overcurrent. Reset. Bernie is aware.
- M:Q107 had its output drop abruptly this morning, the current was "rolling" up to flat-top. While Bernie investigated, Jim Morgan turned up the setting to get approximately the same current so we could run. Bernie turned up the current gain to get the supply to regulate, but says the voltage waveform suggests that there is a problem with the supply (as well as M:Q105I). He will need non-stacking time to further investigate. The power supply setting is about an amp higher than it used to be to get the nominal output.
- Stacking
 - <stack rate> = 25.9mA/hr
 - <production> = 20.0 pbar/Mp
 - <beam on target> = 8.3 Tp

Transfers

- Unstacked 488mA in 58 transfers over 19 sets with an average overall efficiency of 96.2%.

Studies

- Stacktail Phasing with 30e10 - looking for opportunistic non-stacking time
- Stacktail tank moving - parasitic
- Jim Morgan would like to change beamline C204 limits based on calculations using the model. We will be doing one plane of one beamline at a time.

Access & Maintenance

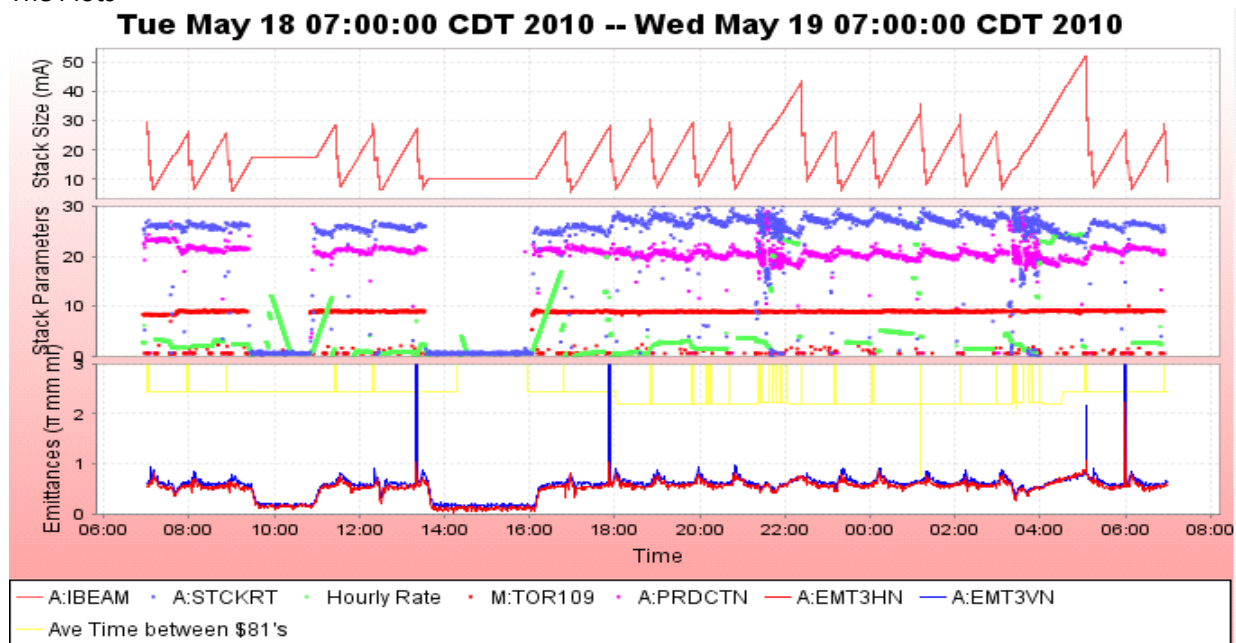
- Pbar Dry Engine maintenance - Cryo needs to change the flywheel, which is a two hour job. We will try to complete this job today.
- Increase power in 4-8 GHz TWTs by 10 W each. Requires tunnel measurements.
- Repair D:POTMF
- D:H1AL1 regulator replacement (http://www-bd.fnal.gov/cgi-worklist/worklist_form.pl?id=11905)
- Ralph, Wes and Pete not available until after Thursday.

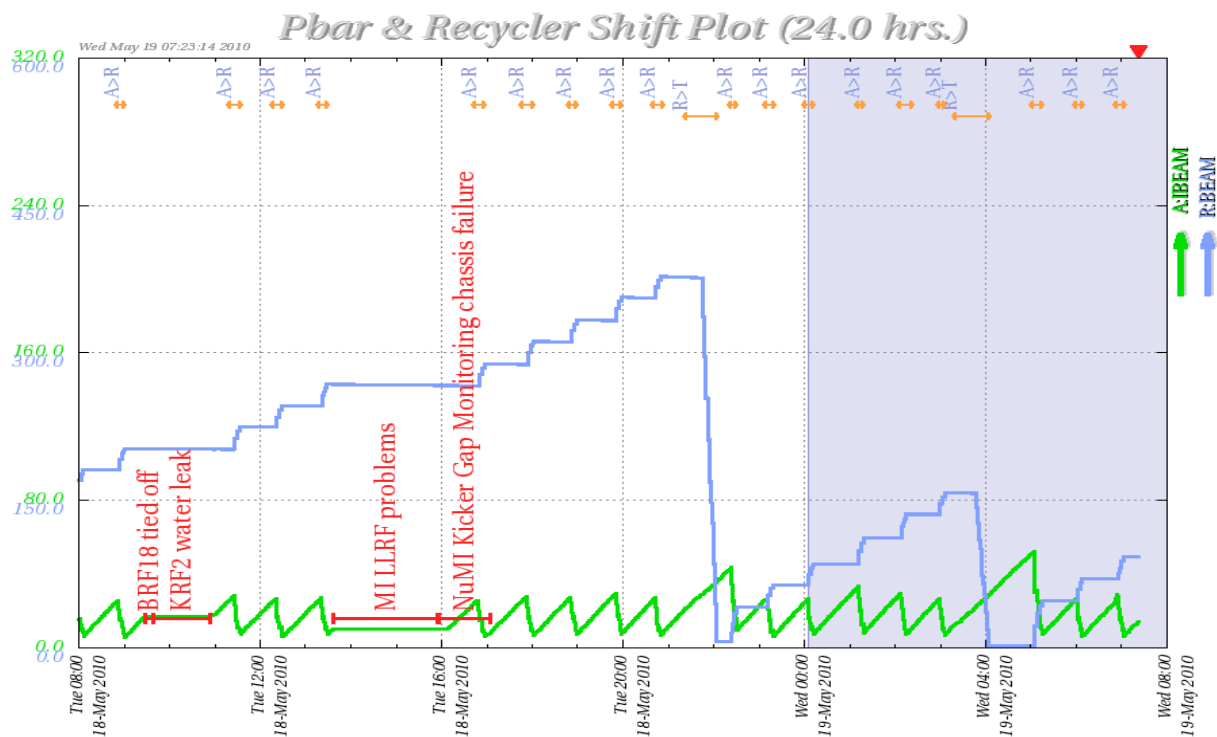
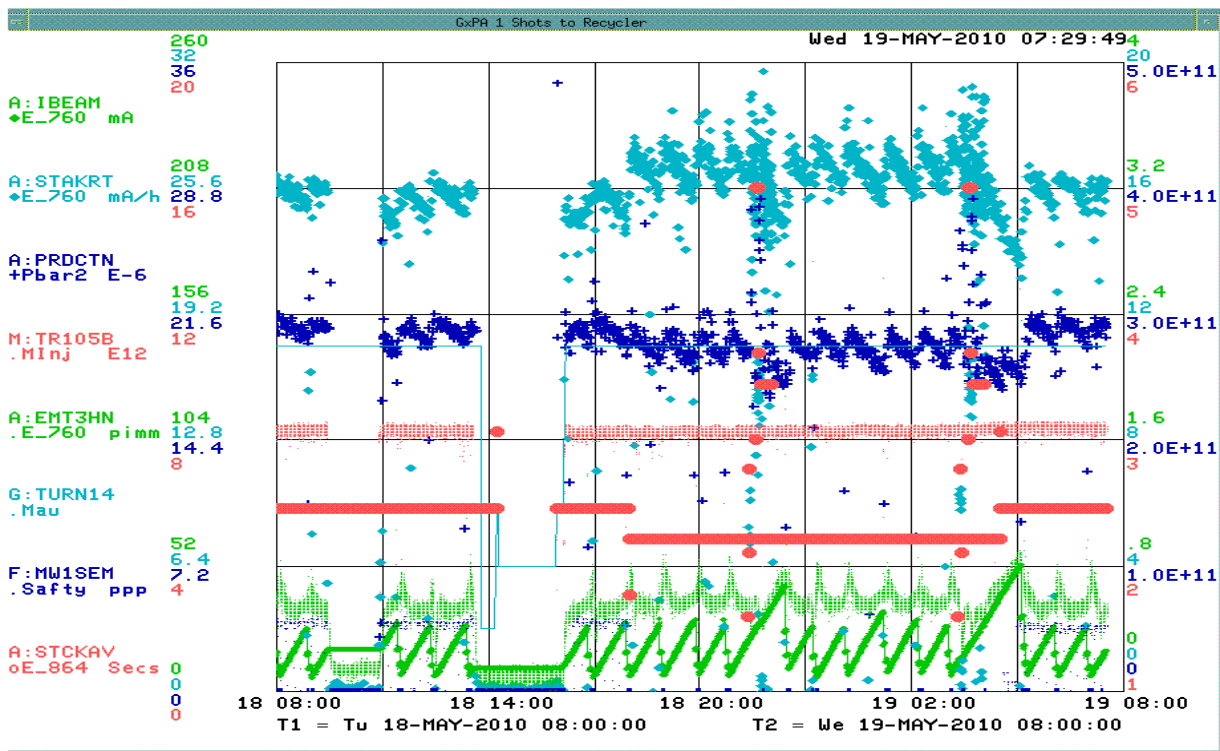
The Numbers

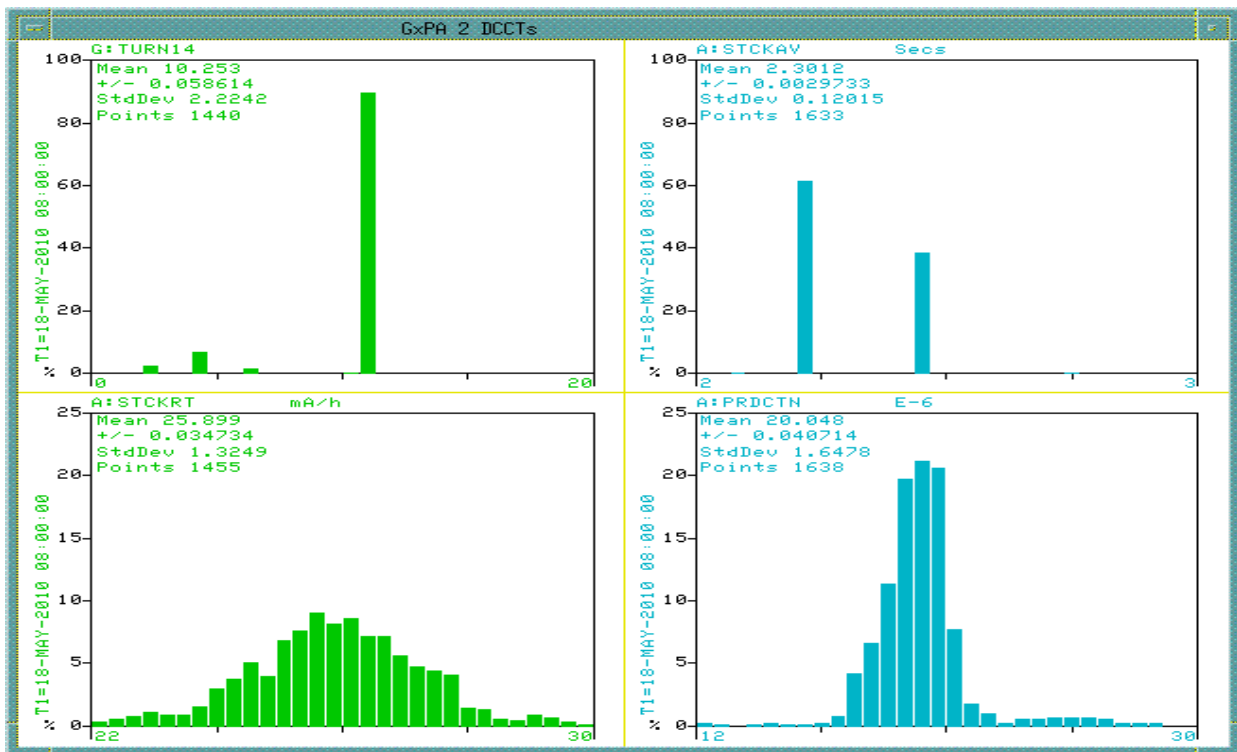
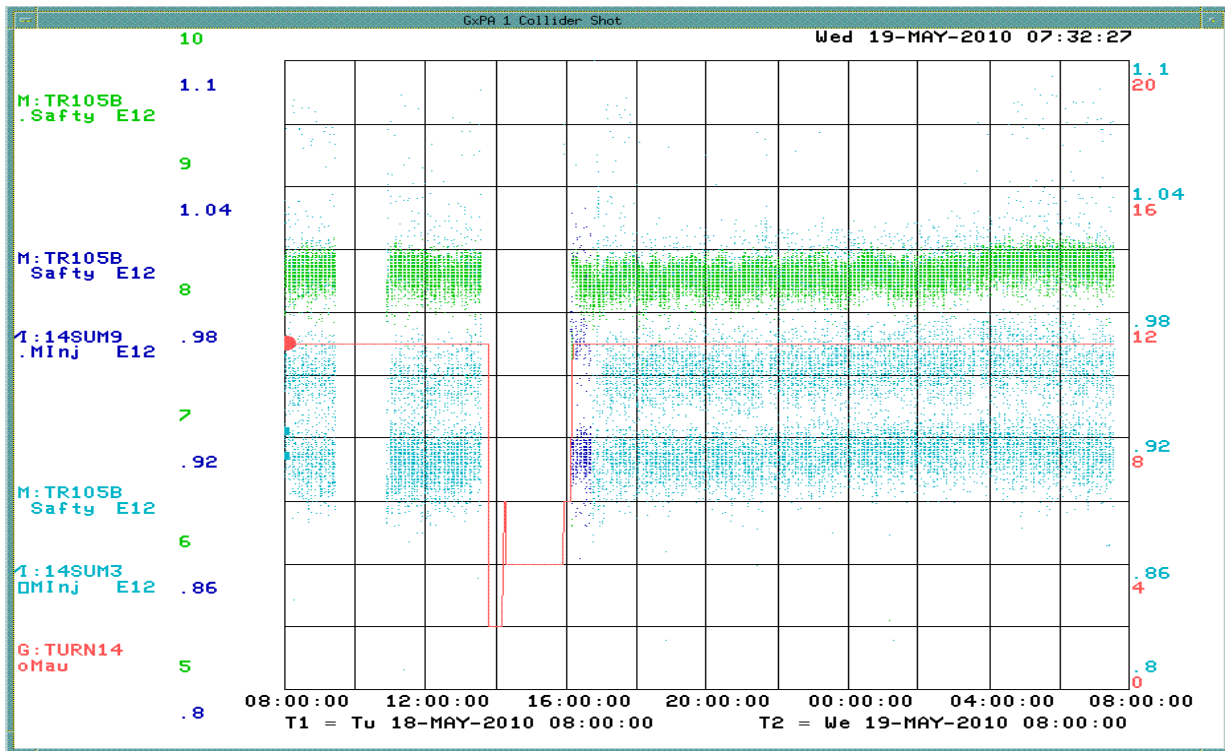
- Stacking
- Pbars stacked: 498.38 E10
- Time stacking: 21.28 Hr
- Average stacking rate: 23.42 E10/Hr
- Uptime
- Number of pulses while in stacking mode: 32369
- Number of pulses with beam: 29514

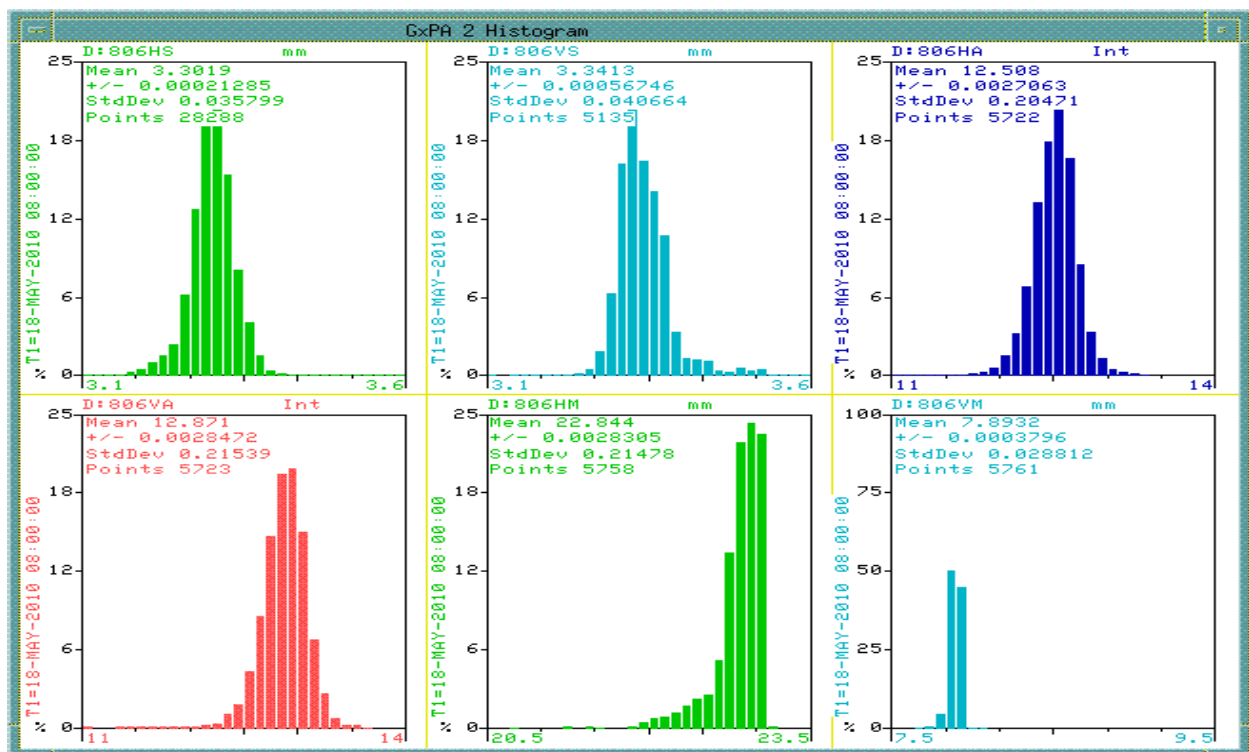
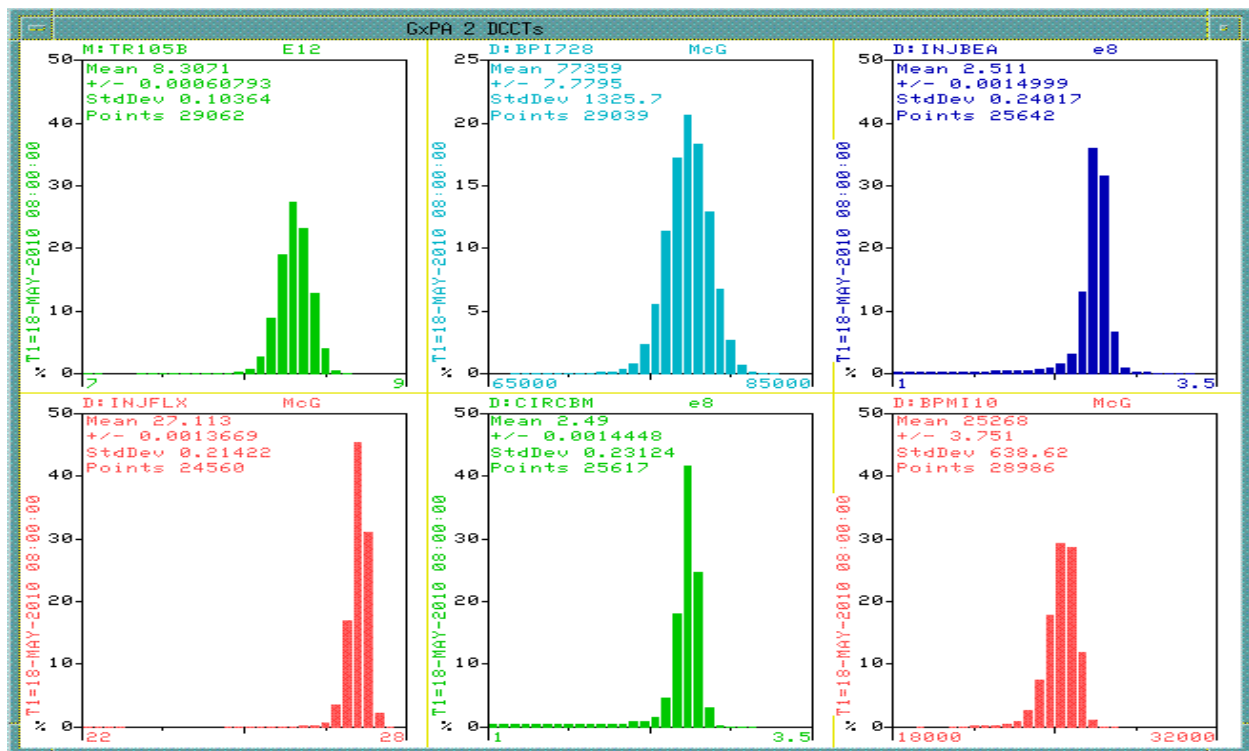
- Fraction of up pulses was: 91.18%
- The uptime's effect on the stacking numbers
- Corrected time stacking: 19.40 Hr
- Possible average stacking rate: 25.69 E10/Hr
- Could have stacked: 546.59 E10/Hr
- Recycler Transfers
- Pbars sent to the Recycler: 505.21 E10
- Number of transfers : 60
- Number of transfer sets: 20
- Average Number of transfer per set: 3.00
- Time taken to shoot including reverse proton tuneup: 00.21 Hr
- Transfer efficiency: 96.11%
- Other Info
- Average POT : 8.28 E12
- Average production: 20.40 pbars/E6 protons
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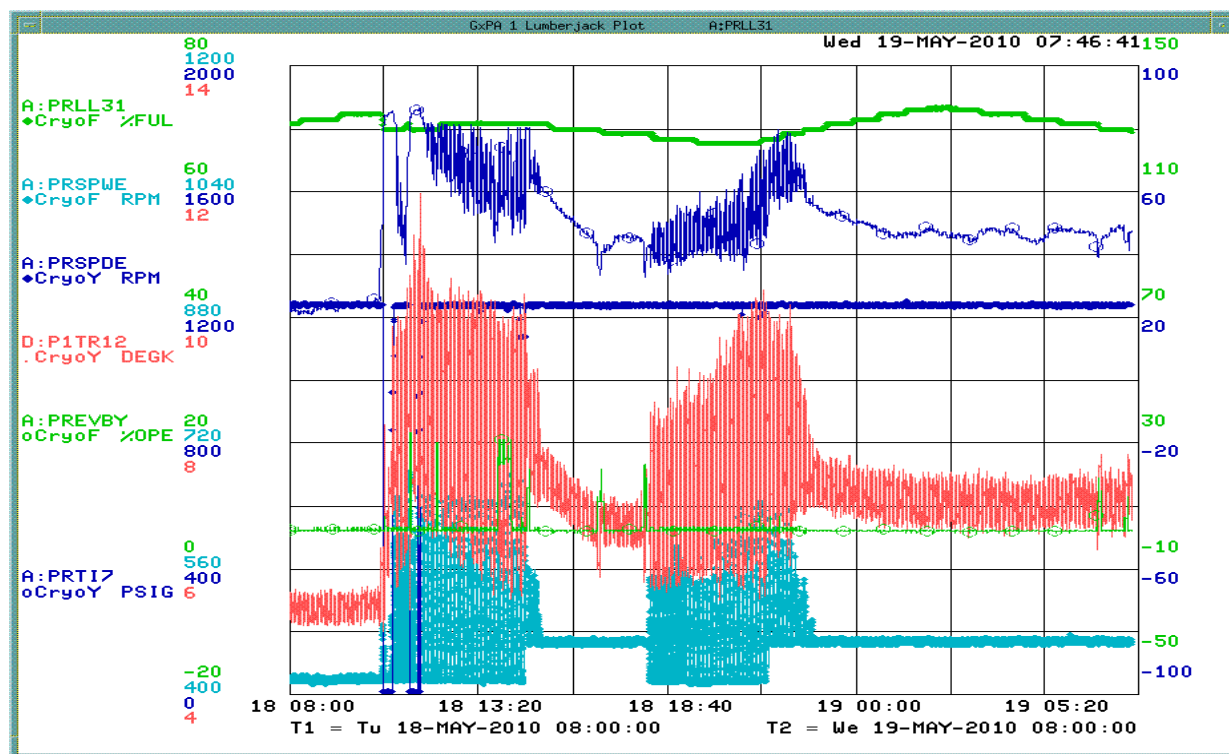
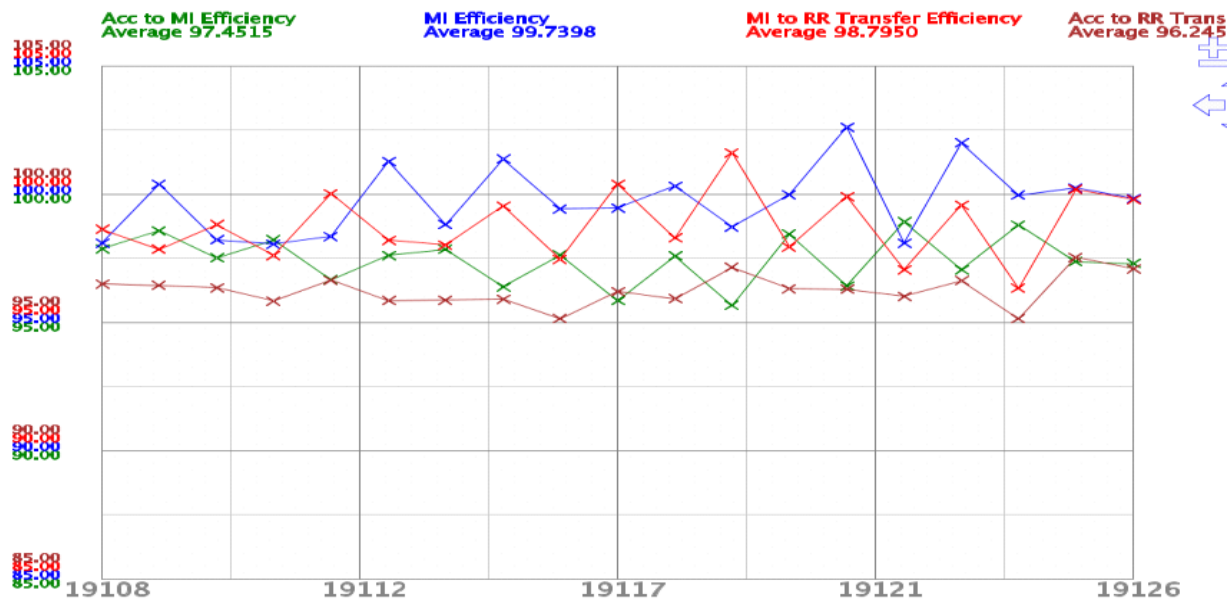
The Plots











Column 1 Number _0_Pbar Transfer Shot #	Column 4 Number_3_Transfer Time	Column 21 Number _20_A:1 BEAMB sampled on \$91 (A:BEA M7), E10	Column 22 Number _21_A:1 BEAMB sampled on \$94 (A:BEA M9), E10	Unstacked (mA)	Column 23 Number _22_R: BEAMS (R:BEA ME0[0]) pre xfer E10	Column 24 Number _23_R: BEAM (R:BEA ME0[1]) post xfer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to M12 Eff	Transfers	Set s	Column 5 Number _4_Acc Horizontal Emittance	Column 6 Number _5_Acc Vertical Emittance	Column 8 Number _7_Acc Longitudinal Emittance	
	Totals =>			487.70			469.08	96.18%	97.67%	97.45%	58	19	5.5556	6.0389	1.9351	
19126	Wednesday, May 19, 2010	6:56	26.50	6.11	22.96	70.28	92.45	22.25	96.92%	97.32%	96.94%	3	1	5.418	6.092	1.916
19125	Wednesday, May 19, 2010	6:01	26.64	6.11	23.07	48.17	70.42	22.48	97.41%	97.28%	98.25%	3	1	5.298	6.041	1.913
19124	Wednesday, May 19, 2010	5:04	52.34	7.08	48.85	1.99	48.20	46.37	94.93%	98.10%	98.20%	4	1	6.541	6.548	1.877
19123	Wednesday, May 19, 2010	2:58	26.59	6.57	22.69	135.70	157.48	21.97	96.85%	97.40%	98.67%	3	1	5.638	6.067	1.939
19122	Wednesday, May 19, 2010	2:08	29.70	7.50	24.87	112.04	135.85	23.90	96.10%	98.91%	97.23%	3	1	5.784	6.34	1.959
19121	Wednesday, May 19, 2010	1:12	33.22	7.84	28.00	85.24	112.13	26.98	96.33%	97.06%	98.88%	3	1	5.825	5.913	1.895
19120	Wednesday, May 19, 2010	0:04	26.35	6.93	22.10	64.20	85.39	21.27	96.27%	97.96%	98.16%	3	1	5.253	6.286	1.953
19119	Tuesday, May 18, 2010	23:11	26.58	5.73	23.48	41.48	64.23	22.82	97.17%	96.65%	95.51%	3	1	4.946	5.672	1.909
19118	Tuesday, May 18, 2010	22:23	43.51	9.21	36.75	6.50	41.61	35.20	95.79%	97.68%	97.77%	3	1	6.386	6.588	1.91
19117	Tuesday, May 18, 2010	20:43	27.17	6.53	23.26	355.84	377.98	22.38	96.22%	96.31%	95.48%	3	1	5.81	6.1	1.969
19116	Tuesday, May 18, 2010	19:50	29.50	7.10	25.02	332.88	356.71	23.90	95.51%	98.12%	97.83%	3	1	5.72	5.968	1.949
19115	Tuesday, May 18, 2010	18:52	27.59	6.71	23.55	311.25	333.66	22.64	96.13%	97.10%	97.90%	3	1	6.014	5.791	1.952
19114	Tuesday, May 18, 2010	17:53	28.35	6.11	24.78	288.23	311.92	23.78	95.96%	98.46%	97.68%	3	1	5.542	5.758	1.943
19113	Tuesday, May 18, 2010	16:49	26.41	5.54	23.18	266.66	288.81	22.20	95.76%	97.79%	98.14%	3	1	5.044	5.589	1.927
19112	Tuesday, May 18, 2010	13:21	27.15	6.57	23.13	246.02	268.26	22.35	96.64%	97.13%	95.78%	3	1	5.169	5.923	1.984
19111	Tuesday, May 18, 2010	12:21	26.84	6.16	22.83	224.55	246.38	21.91	95.97%	98.10%	96.18%	3	1	5.057	5.99	1.913
19110	Tuesday, May 18, 2010	11:26	28.46	7.17	23.87	202.02	224.92	23.03	96.47%	97.37%	96.15%	3	1	5.298	6.014	1.968
19109	Tuesday, May 18, 2010	8:53	26.07	5.69	22.69	181.05	202.79	21.87	96.38%	98.51%	99.11%	3	1	5.241	6.052	1.933
19108	Tuesday, May 18, 2010	7:59	26.20	6.20	22.63	159.56	181.31	21.79	96.30%	98.00%	96.46%	3	1	5.572	6.008	1.957

